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TITLE	SPACE WAR
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SOURCE LANGUAGE	PAL

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SPACE WAR

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ABSTRACT

The classic game of Intergalactic Death and Destruction on a Lab-8. Two players vie with ships in space for control of the Universe. The ships may be controlled from the Switch Register or from the AXØ8 front panel Blue Ribbon Connector.

1. Requirements

1.1 Hardware

4K Lab-8 or Lab-8L
ASR 33 Teletype

1.2 Memory

Space War occupies approximately 25ØØ words of core.

2.0 Operation

2.1 Loading

The program is supplied on paper tape and may be loaded with the Binary Loader.

2.2 Starting

The Starting Address of Space War is Ø2ØØ. The program may be started or restarted at this address at any time. Before starting, set up the system for normal Lab-8 operation, that is, the scope and teletype on, and the horizontal and vertical sweep sensitivities set to 1.Ø volt/cm. When the program is started, Ship number ONE should appear at the left edge of the screen, number TWO should appear at the right edge. Number ONE is delta shaped, number TWO is more rectangular. Some adjustment of the scope position controls may be necessary.

3.0 Controls

If, when the program is started or restarted, the SR=Ø, the SR switches are used as controls for the two ships. If the SR≠Ø, the Contingency Inputs on the AXØ8 (XR option only) will be used. To change this assignment at any time restart the program at Ø2ØØ. The control bit assignments are:

SR:	XR:	Function:
Ø	Ø	Ship ONE rotates left
1	1	Ship ONE rotates right
2	2	Ship ONE accelerates forward
3	3	Ship ONE launches torpedo
8	4	Ship TWO rotates left
9	5	Ship TWO rotates right
1Ø	6	Ship TWO accelerates forward
11	7	Ship TWO launches torpedo

The SR controls are asserted by setting the corresponding bit to a 1. The Contingency Input controls are asserted by grounding the corresponding input.

4.0 Operation

When the program is loaded and started the ships appear on the screen and play may begin immediately. The ships are controlled like real ones, that is, to move in a certain direction rotate the ship to point in that direction and apply thrust to accelerate. To stop, reverse the direction and apply thrust to decelerate. Torpedoes are aimed by pointing the ship in the desired direction before launch. The objective of the game for each player is to destroy the other ship thereby becoming Supreme Ruler of the Universe.

If both left and right turn commands for a ship are asserted simultaneously, the ship is thrown into hyperspace and vanishes from the screen. Return from hyperspace is not under the players' control and will happen at some random future time and position. Occasionally reentry will not be successful and the ship will reappear as an explosion.

When either ship is struck by a torpedo it will explode and when the explosion dies out a winner will be declared. The game may then be restarted by hitting any teletype key.

Due to small screen size certain limitations have been imposed to make the game manageable. First, the space is closed so that a ship or torpedo leaving the screen at the top will reappear at the bottom. Second, the velocities of the ships may not exceed certain values. Finally, a ship may launch torpedoes not more often than one every several seconds.

5.0 Restrictions

Space War is interrupt driven and uses the crystal clock in the AXØ8. 4Ø96 unexpected interrupts will cause an error halt, so any device flag which can cause an interrupt must be cleared or disabled.